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- (71) Applicant (for all designated States except US): ONCOMAB GMBH [DE/DE]; c/o IGZ BioMed, Friedrich-Bergius-Ring 15, 97076 Würzburg (DE).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): **VOLLMERS,** Heinz, Peter [DE/DE]; Budapeststrasse 23, 97084 Würzburg (DE). MUELLER-HERMELINK, Напѕ, Konrad [DE/DE]; Heinrich-Zeuner-Strasse, 97082 Würzburg (DE).

- (74) Agents: WEICKMANN, F., A. et al.; Weickmann & Weickmann, Postfach 860 820, 81635 München (DE).
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(54) Title: NEOPLASM SPECIFIC ANTIBODIES AND USES THEREOF

(57) Abstract: The present invention features polypeptides, such as antibodies, and their use in the treatment and diagnosis of neoplasms.

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A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 C07K16/30 C12N5/28 C12N15/08 G01N33/574 GO1N33/577 A61K39/395 A61K47/48 A61K51/10 A61P35/00 According to International Patent Classification (IPC) or to both national classification and IPC B. FIELDS SEARCHED Minimum documentation searched (classification system followed by dassification symbols) IPC 7 CO7K Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched Electronic data base consulted during the international search (name of data base and, where practical, search terms used) BIOSIS, EPO-Internal, SEQUENCE SEARCH, WPI Data, PAJ, MEDLINE, EMBASE C. DOCUMENTS CONSIDERED TO BE RELEVANT Citation of document, with indication, where appropriate, of the relevant passages Relevant to dalm No. WO 01 83560 A (ICHIKAWA KIMIHISA ;KIMBERLY 1-6,13, ROBERT P (US); KOOPMAN WILLIAM J (US);) 14, 17-20, 8 November 2001 (2001-11-08) 26-53 abstract page 1, line 25 - line 31 page 3, line 7 - line 9 page 4, line 25 - line 28 page 5, line 20 - line 30 page 5, line 22 - line 25 page 6, line 3 - line 5 page 6, line 25 - line 27 page 12, line 18 - line 31 page 20, line 1 - line 8 page 29, line 27 - line 28 page 30, line 17 - line 29 page 35, line 6 - line 11 page 36, line 15 - line 17 page 58, line 1 - line 2 -/--Patent family members are listed in annex. Further documents are listed in the continuation of box C. Special categories of cited documents: "I later document published after the international filing date or priority date and not in conflict with the application but *A* document defining the general state of the art which is not cited to understand the principle or theory underlying the considered to be of particular relevance invention 'E' earlier document but published on or after the International *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to "L" document which may throw doubts on priority claim(s) or involve an inventive step when the document is taken alone which is cited to establish the publication date of another *Y* document of particular relevance; the claimed Invention citation or other special reason (as specified) cannot be considered to involve an inventive step when the O document referring to an oral disclosure, use, exhibition or document is combined with one or more other, such documents, such combination being obvious to a person skilled other means in the art. *P* document published prior to the international filing date but later than the priority date claimed *&* document member of the same patent family Date of the actual completion of the international search Date of mailing of the international search report 28/11/2003 3 November 2003 Name and malling address of the ISA Authorized officer European Patent Office, P.B. 5818 Patentiaan 2 NL - 2280 HV Aijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Irion, A Fax: (+31-70) 340-3016

Internations stion No PCT/IB 03/01335

ation of document, with indication, where appropriate, of the relevant passages WO 97 13844 A (CAMBRIDGE ANTIBODY TECH	Relevant to claim No.
	Relevant to claim No.
WO 97 13844 A (CAMBRIDGE ANTIRODY TECH	
;TEMPEST PHILIP RONALD (GB); THOMSON JULIA) 17 April 1997 (1997-04-17) figures 1,2,19 page 17, line 25 -page 18, line 21 page 1, line 8 - line 11 page 38, line 6 - line 9 page 38, line 16 - line 20 claims 1-34	9,12-16, 21,22, 26,52,53
WO 01 62932 A (AMGEN INC) 30 August 2001 (2001-08-30) claim 9	23,26
EP 1 106 183 A (GENENTECH INC ; REGENTS BOARD OF (US)) 13 June 2001 (2001-06-13)	3,6, 12-14, 16, 29-33, 36-41, 44-49, 52,53
page 9, line 23 - line 30 page 17, line 15 - line 24 page 24, line 46 - line 55 page 5, line 5 - line 7 page 10, line 38 - line 44 page 14, line 26 - line 34	
BRAENDLEIN STEPHANIE ET AL: "Characterization of five new fully human monoclonal IgM antibodies isolated from carcinoma patients" PROCEEDINGS OF THE AMERICAN ASSOCIATION FOR CANCER RESEARCH ANNUAL, vol. 43, March 2002 (2002-03), page 970 XP001155782 93rd Annual Meeting of the American Association for Cancer Research; San Francisco, California, USA; April 06-10, 2002, March, 2002 ISSN: 0197-016X the whole document	1-53
BRAENDLEIN STEPHANIE ET AL: "Human monoclonal IgM antibodies with apoptotic activity isolated from cancer patients." HUMAN ANTIBODIES, vol. 11, no. 4, 2002, pages 107-119, XP009020163 ISSN: 1093-2607 the whole document	1-53
	page 17, line 25 -page 18, line 21 page 1, line 8 - line 11 page 38, line 6 - line 9 page 38, line 16 - line 20 claims 1-34 WO 01 62932 A (AMGEN INC) 30 August 2001 (2001-08-30) claim 9 EP 1 106 183 A (GENENTECH INC ;REGENTS BOARD OF (US)) 13 June 2001 (2001-06-13) page 9, line 15 - line 24 page 24, line 46 - line 55 page 5, line 5 - line 7 page 10, line 38 - line 44 page 14, line 26 - line 34 BRAENDLEIN STEPHANIE ET AL: "Characterization of five new fully human monoclonal IgM antibodies isolated from carcinoma patients" PROCEEDINGS OF THE AMERICAN ASSOCIATION FOR CANCER RESEARCH ANNUAL, vol. 43, March 2002 (2002-03), page 970 XP001155782 93rd Annual Meeting of the American Association for Cancer Research;San Francisco, California, USA; April 06-10, 2002, March, 2002 ISSN: 0197-016X the whole document BRAENDLEIN STEPHANIE ET AL: "Human monoclonal IgM antibodies with apoptotic activity isolated from cancer patients." HUMAN ANTIBODIES, vol. 11, no. 4, 2002, pages 107-119, XP009020163 ISSN: 1093-2607

Internation Ition No
PCT/IB 03/01335

		PC1/1B 03/01335					
C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT							
Category *	Citation of document, with indication, where appropriate, of the relevant passages		Relevant to claim No.				
A	MENG RAYMOND D ET AL: "p53-independent upregulation of KILLER/DR5 TRAIL receptor expression by glucocorticoids and interferon-gamma" EXPERIMENTAL CELL RESEARCH, vol. 262, no. 2, 15 January 2001 (2001-01-15), pages 154-169, XP002260126 ISSN: 0014-4827 the whole document		1-53				
A	HUANG YING ET AL: "Sulindac sulfide-induced apoptosis involves death receptor 5 and the caspase 8-dependent pathway in human colon and prostate cancer cells" CANCER RESEARCH, vol. 61, no. 18, 15 September 2001 (2001-09-15), pages 6918-6924, XP002260127 ISSN: 0008-5472 the whole document		1-53				
		·					

International application No. PCT/IB 03/01335

'Box I	Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)
This Inte	ernational Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:
1. X	Claims Nos.: because they relate to subject matter not required to be searched by this Authority, namely:
	Although claims 36-51 are directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.
2.	Claims Nos.: because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3.	Claims Nos.: because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).
Box II	Observations where unity of Invention is lacking (Continuation of Item 2 of first sheet)
This Inte	ernational Searching Authority found multiple inventions in this international application, as follows:
1.	As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2.	As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3.	As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4.	No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:
Remark	The additional search fees were accompanied by the applicant's protest.
	No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT Information on patent family members

Internationa ... ation No PCT/IB 03/01335

<u> </u>						
Patent document cited in search report		Publication date		Patent family member(s)		Publication date
WO 0183560	A	08-11-2001	AU	5936601	Α	12-11-2001
MO 0103300	^	00 11 2001	CA	2407965		08-11-2001
			CN	1440424		03-09-2003
			CZ	20023917		14-05-2003
			EP	1287035		05-03-2003
			NO	20025253		18-12-2002
			WO	0183560		08-11-2001
		17 04 1007	 A T	100650	*** 	15-04-2000
WO 9713844	Α	17-04-1997	AT	190650		15-04-2000
			AT	199091		15-02-2001
			AU	702049	- -	11-02-1999
		••	AU	7140596		30-04-1997
			CA	2233042		17-04-1997
			DE	69607191		20-04-2000
			DE	69607191		28-09-2000
			DE	69611766		15-03-2001
•			DE	69611766		02-08-2001
			DK	945464	-	07-05-2001
			EP	0853661	A1	22-07-1998
			EP	0945464		29-09-1999
			ES	2146020		16-07-2000
			ES	2156035		01-06-2001
			WO	9713844		17-04-1997
			GB	2305921	•	23-04-1997
1			GR	3033436		29-09-2000
			GR	3035775		31 - 07-2001
			JP	2000500643		25-01-2000
			PΤ	853661		31-08-2000
			PT	945464	T	31-07-2001
WO 0162932	A	30-08-2001	US	2003103978	A1	05-06-2003
			AU	3868001	Α	03-09-2001
			CA	2400929	A1	30-08-2001
			EP	1257648	A1	20-11-2002
•			JP	2003523772	T	12-08-2003
			WO	0162932	A1	30-08-2001
EP 1106183	A	13-06-2001	EP	1106183	A2	13-06-2001
ri IIvoioo	* 1	-0 00 E001	ĀŪ	4982097		15-05-1998
			BR	9712410		19-10-1999
			CN	1234072		03-11-1999
			EP	0931147		28-07-1999
	-		JP	2001504326		03-04-2001
			JP	2001304520		31-10-2001
			KR	2001302340		25-07-2000
			TR	9901615		22-11-1999
			1.17			
			MU	0217707	Δ1	3U=UV=1008
			WO ZA	9817797 9709185		30-04-1998 14-04-1999